



How Do Nudges Influence Consumer Decisions?

A Literature Review

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Abstract

Nudge is a recent research phenomena that explores the idea of implementing low-cost and easy opt-out measures to subtly influence decision making. While it is met with a lot of emerging literature advocating for its effectiveness, only a small proportion of literature has raised doubts over its applications, heavy dependence on context, overall ethical concerns, and its complex connection to negative emotions.

This research acts as a broad literature review on nudging in consumer behavior. This study also seeks to summarize the findings of the most recent marketing research on Nudge to provide a more comprehensive overview of effects and the applications of Nudge as a marketing tool. The results of the study suggest why Nudge can be effective and how it can influence consumer decision-making, while also highlighting the research gap in the overall concerns as well as connection between Nudge and negative sentiments.

Keywords Nudge Theory, Libertarian Paternalism, Choice Architecture, Consumer Behaviour, Decision Making

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1. Introduction

An article in National Public Radio mentioned a cultural phenomena in the title “*There's a Fly in my Urinal*” (Krulwich, 2009), discussing how the print of a fly etched on the porcelain bowl of every urinal in male toilet had caused a starking “80 percent drop in spillage rates!”, and therefore a significant drop in sanitary maintenance cost in Schiphol Airport. In the article, the Dutch airport officials cited the reason might be that male usually do not pay attention as their mind wanders and therefore tend to create a lot of messy splashes. Introducing a target increase attention and thus “reduced misdirected stream” - due to a “deep-seated instinct to aim at targets for male”.

This very phenomenon, dubbed as ‘Nudge’, has also been central in the introduction to a book title “Nudge - Improving decisions about health, wealth, and happiness” just a decade ago (Thaler & Sunstein, 2008). In the book, Thaler & Sunstein explain the phenomenon in which the institutions, described as ‘choice architect’, seek to influence people’s decisions in a predetermined way without interfering with people’s freedom of choice or giving them any economic incentives to behave so. This is also explained succinctly by the synonymous term ‘*libertarian paternalism*’, which was coined earlier also by Thaler & Sunstein in 2003.

The concept has been widely both adapted and challenged in both commercial spaces and public policy. Nutritional fact labeling, opt-out instead of opt-in, and margin product placement at eye-level and well-lit places all frame a particular choice in a certain way, while not made mandatory to consumers. For example, while recognizing junk food is healthy for the student population, a libertarian paternalism school officials would still only place junk food at the end

of the aisle, while placing healthier choices like salad at eye level or in front of the queue. A total ban of fast food is not Nudge, neither is financial rewards for eating salad.

This research is also motivated on the theoretical framework of the ongoing discussion in behavioral economics of ‘Humans versus Econs’. The debate, which has been ongoing for decades, discusses about how much of our decision making is rational or the opposite, emotional. While traditional economists have been supporting the *Homo economicus*, or economic man - responding only to economic incentives, a new paradigm in behaviour economic including bestsellers like *Thinking Fast and Slow* (Kahneman, 2002), *Freakonomics* (Levitt & Dubner, 2005) and *Predictably Irrational* (Ariely, 2008) even promote a view of the consumer being even less than logical, the irrational *Homo Sapiens*.

Furthermore, another motivation is the fact that organizations spend a huge amount of resources to come up with a strategy on how to develop and position their offerings (Dobni et al, 2001) and especially in the case of a business. From product development to marketing and communication activities, every subtle measure like Nudge could be used effectively to direct consumers’ limited and easily distracted mind. Especially navigating in an increasingly “cluttered advertising environment” (Nordfält, 2005), “everything matters” - even tiny details (which Thaler (2015) called *Supposedly Irrelevant Factors*) can have a major impact on people’s decisions. Thus, and also according to Nordfält (2005) retailers and advertisers can and should adapt their marketing and communication to the needs of the consumers and influence their decisions.

1.1 Problem Discussion

In 2012, Johnson et al. further confirmed that there are no such things as neutral architecture. Each design (of choice) itself reflects a bias of the presenter and thus every way the choice is presented can affect the decision-maker in his choice. This furthered the notion of “everything matters”. With great power comes great responsibility, the sheer opportunity can be paralyzing to the choice architect (Thaler & Sunstein, 2008).

Besides, institutions (or choice architects) today are challenged by the fact that *consumers* want more choices, for example a greater variety of flavors in products (Nordfält, 2005; Gladwell, 2004). At the same time, there is such a problem as too much choice - the paradox of choice. For example, if employees are offered with 401 000 retirement plans, the participation in the retirement savings plan is 75%; however, if there are only 2 plans offered, employees’ participation is 60% (Iyengar, Jiang & Huberman, 2004).

The problem seems that people tend to make unhealthy choices and thus might need some help when choosing. As a result, instead of relying on themselves, they should get help from ‘Choice architects’, the people seek to impact decision making via context design, who knows and cares more at people’s interest (Vallgård, 2012). Governments can use Nudge to form people's behaviour via introducing different regulations, laws and policies; or just simple redesigns of pathway. Nudge has so far been used as a tool many governments want to change undesired behaviours like obesity, late tax payments, retirement plan opt-in, avoid payday loans; and has therefore used Nudge.

Sunstein & Thaler (2008) claimed that private companies want to make profits and thus have a great opportunity to capitalize from the use of Nudge. There are some recent studies that

implement the Nudge theory on private companies. While consumers might feel unpleasant about the idea that organizations use no conscious cognitive influences on decision processes (Nordfält, 2005). And according to Solomon et al. (2010), marketing is criticized for convincing consumers need something that they don't. This research act as an overview of the literature on nudging in consumer decisions. However during the study, the research gaps surfaced as for eg. there are too few literature on the connection between customers' negative responses to Nudge, overall ethical assessment of Nudge, and the role of context; therefore opened an avenue to examine in future research.

1.2 Research Objectives and Research Questions

The research questions of this thesis are ...

How do customers respond to Nudge?

Sub-questions:

- *What factors determine the role of Nudge in consumer decisions?*
- *What are the effects of Nudge?*
- *What are the concerns of Nudge?*

To answer these research questions, this thesis seeks to summarize the findings of the most recent marketing research on Nudge to provide a more comprehensive overview of the application of Nudge as a marketing tool. What the author of this thesis wants to comprehend further is if it is possible to change consumer decisions in order for consumers to make healthier choices, by using the Nudge theory; and how to apply it to marketing. The results of the study suggests the ways for practitioners to start applying Nudge through understanding its applications and impacts better, thus how to start using it with informed caution.

1.3 Structure of the Research

The rest of the thesis is structured as follows. Chapter 2 reviews previous literature on defining Nudge and decision-making, thus provides the theoretical framework for this study. Next, Chapter 3 presents the types of Nudge where it has proven effects and how it has been applied in different industries and sectors. In Chapter 4 specifically look at the concerns and critiques of Nudge, questioning the ethics, as well as its effect. In Chapter 5 I will summarise the key findings from the relevant literature respectively before discussing the implications to research to research and practice, while highlighting the research gap for future research.

2. Overview of Nudge

2.1 Defining Nudge - The Nudge Theory

As previously defined, a **Nudge** is when institutions, described as ‘choice architect’, seek to influence people’s decisions in a predetermined way without interfering with people’s freedom of choice or giving them any economic incentives to behave so. Nudge should not make options mandatory. A Nudge can for example be to put fruit at eye level. To ban junk food and force people to eat healthy is not a Nudge. (Sunstein & Thaler, 2008)

One of the key features of Nudge, according to Thaler & Sunstein (2008) is that it has to be helpful, harmless, low-cost and easy to opt-out. People need Nudge for decisions that they do not get immediate feedback, and when they have trouble understanding the weight of the situation (Sunstein & Thaler, 2008). Unless you have a good understanding of the issues, without immediate feedback, we might habituated the bad behaviours. One will not get throat cancer immediately after one cigarette but rather decades of heavy smoking, or one will only get heart attacks after decades of unhealthy diets. Similarly, one will only face with stark financial

outcome for majority of working years not saving for retirement. In the absence of feedback loop, we can benefit from a Nudge (Sunstein & Thaler, 2008).

Nudge is about choice framing. Nowadays people are overloaded with information about what's best out there. We have little time to process an increasing amount of signals, thus we use social cues to make better decisions (John et al., 2009). John et al. also said individuals in the society today rely on information retrieval/search, whether it is a big issues or carrying on a routine civic action. Thus, in this study we will also examine if the information disclosure is also a key element to Nudge.

Libertarian Paternalism was coined synonymously, but previous to Nudge, also by Thaler & Sunstein (2003). It is a behavioural term that means influencing people to make decisions best suited for the individual. However, if they do not choose that option but instead chose what they want, which can be an unhealthier choice, they should not be obstructed or discouraged. Libertarian Paternalism is an approach that encourages people to make free choices, but authorize both private and public organizations who will seek to steer people in directions that is good for them (Thaler & Sunstein, 2003). Libertarian Paternalism can be loosely interpreted as loving-yet-progressive parenting - wanting to happen to your children to choose the best educational choice while still allowing them to have the academic freedom to pursue what they are keen to pursue.

Choice Architecture is a phenomenon where the choice architect (institution, product designer, marketer, etc...) perform the act of choice framing - designs the context in which people make choices, of which many are not even aware of the experience being predetermined, and they should be better off from the predetermined choice.

2.2 Role of Nudge in Decision Making

For a long time, a powerful and influential group of economists suggested that we made decisions based purely on rationality. They argued that we all make choices according to utility theory, which states that when individuals make decisions, they look only at the rational facts and choose the option with the best overall outcome for them, meaning the most utility.

The most influential group of economists in this field centered on the Chicago School of Economics and the most famous scholar Milton Friedman. In 1976, using utility theory, the Chicago School argued that individuals in the marketplace are ultra-rational decision-makers, whom Thaler and Sunstein (2008) later named Econs. As Econs, each individual acts in the same way, valuing goods and services based on their rational needs. What's more, Econs also value their wealth rationally, weighing only how much utility it provides them.

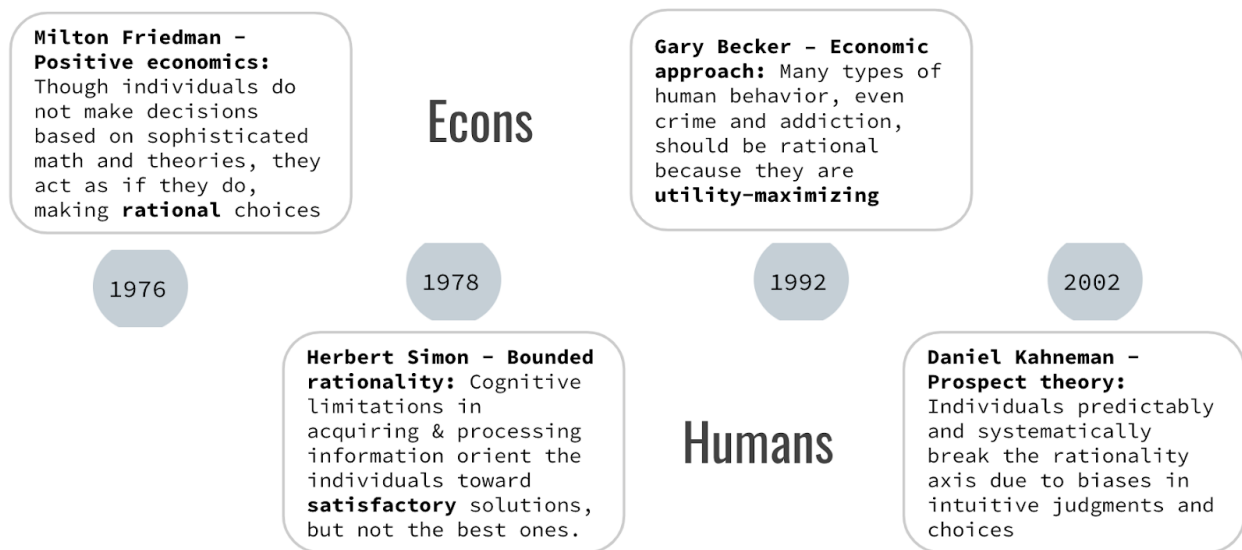


Fig. 1: Timeline of key literature on the Econs vs. Humans debate

However, Herbert Simon (1978) proposed the concept of ‘bounded rationality’, acknowledging the rationality in our decisions. However this rationality is limited by our very

own cognitive limitations. Our inability to acquire and process huge amount of information steer us to settle down with ‘satisfactory’ solutions, rather than the best one as Friedman proposed.

A decade later, rational econs has another proponent when Gary Becker (1992) presented the economic approach - that many different types of human behavior are rational, or to be more correct, ‘utility-maximizing’ - especially inexplicable situations, like crime and addiction.

Kahneman (2002)’s prospect theory: System 1 & 2 thinking model is welcomed by the influential economists due to its accommodation of both school of thoughts. In his prospect theory, he reasoned that due to biases and intuition, the mind often break the boundary of rationality, even in a predictable and systematic manner. This rationality axis is crossed over again and again as the mind has 2 systems in control.

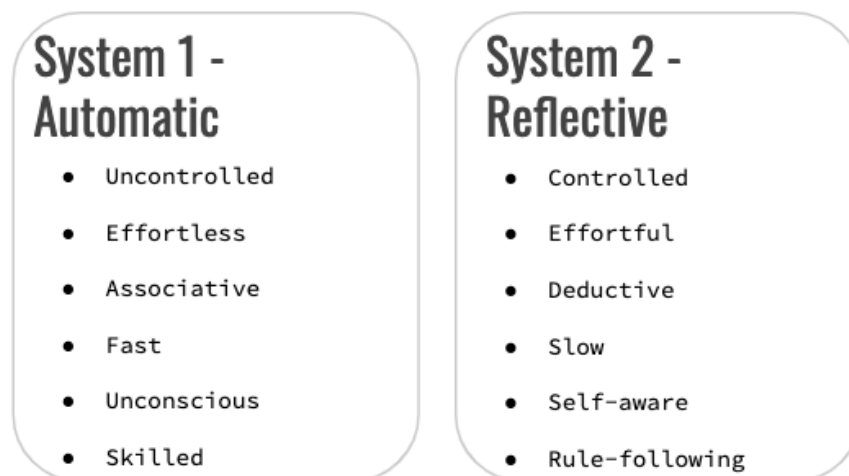


Fig. 2: System 1 and System 2 (Kahneman, 1992) (Thaler & Sunstein, 2008)

The fact that Nudge has to be cheap, easy for choice architect to implement and easy for recipient to avoid (Thaler & Sunstein, 2008) blends together nicely with System 1 & 2 thinking model (Kahneman, 2002). As humans tend to be ‘lazy’ decision makers in our everyday life, in the always-on autopilot mode, the brain utilises heuristics and shortcuts to fill in the gap and take

over decision making (System 1). Even in the absence of all the information, the mind makes quick judgements based on the clues that are really there. This process is entirely automatic, in contrast to the slow and reflective process that is used in System 2. With our limits in cognitive ability and System 1 in control in most day to day functions, we often do not make judgments that are best for us in the long run.

Therefore, if a choice is framed nicely in the context of quick autopilot decision making, and the shortcut bias is laid out on the table and up for the brain to grab, we will tend to take it blindly. However, in one of the critiques of Nudge later in this research, there are also context where Nudge fails if it does not designed to fall nicely in such ‘autopilot’ context, but rather analytical and thoughtful System 2 thinking.

2.3 Types of Nudge

One of the most popular types of Nudge is **default options**. Samuelson & Zeckhauser (1988) demonstrated a consistent status quo bias in decision making, paving the way for many researchers to apply it in behaviour economics and marketing. The default option is usually the option that is pre-selected and will be proceeded if one does nothing. Logically, the default option is often deemed the recommended one. Pichert & Katsikopoulos (2008) presented that despite the green movement in awareness, higher number of consumers choose the environmentally-friendly options only when it's the default option. Default options can sometimes also acts as a point of reference to other options, in such a way that consumers can compare and contrast.

Such compare and contrast activity we are nudged into is also often an end result of framing or anchoring, which are the other popular types of Nudges. We have discussed a popular

example of **framing** at the start of this paper - the fly in the urinal (Krulwich, 2009). For the wandering mind of the male entering the toilet, the absence of target made the splashing inevitable. However, the fly etched in the urinal frame the situation into a binary one - to aim or not to aim! Such framing allows the 'decision-making' process to be much simpler and lure the distracted mind into the target. Whereas, **anchoring** is already a popular tactic in marketing and behavioural finance, especially in pricing. Introducing an anchor item, usually outrageously expensive, increases sales in total. We see it in restaurant menus where some bottles of red wine are hundred of euros, which is believed to make customers settle for the less expensive bottles, despite the high markups still. Petkovski (2013) demonstrated a link between anchoring and increase in consumption in various segmentation of monthly incomes.

Such compare and contrast can also appeal us into another bias - **gains and losses**. Loss aversion is not a foreign concept in behaviour economics, identified also by Kahneman & Aversky (1979). In their research, loss is found to be twice as psychologically powerful as gains. Thus loss aversion is found in a lot of public policy, especially in healthcare, from picture of destroyed throat on a pack of cigarettes, to vaccination, or even insurance advertising. In promotion/discount marketing, "While stocks last!" is added to incentivise customers to act quickly due to fear of losing out, while avoiding downgrading the brand value into a lower one for it being cheaper than normal (Solomon et al., 2014).

Gains can also sometimes be a powerful Nudge in marketing. Steve Jobs was famous for pioneering a powerful product pitch for the original iPod Nano - shrugging off the usual boring product specifications but rather the possible gains customers can obtain - "a thousand songs in your pocket". **Optimism** is also closely related to gains, lottery advertisers rarely talk about

abysmally low the chance to win the lottery, but the message always remains focused on the massive potential winning - “5 Million EUR Jackpot!”.

Several other types of Nudge appeal to our System 1 in a similar manner. Our decision making are impacted by the cues given in the environment and accounted it (at times, prioritised) in the autopilot decision making process. **Priming** works in that exact manner. A priming Nudge seek to provide cues that unconsciously drive decisions. This can be associated with studies in brainshare and brand association in marketing literature (Solomon et al., 2014). A lot of advertising has priming effect in their messages (Yi YJ., 1991). Advertising messages brandish promises like “It’s fingers licking good!”, or organic products has pictures of greens in packaging to signal its value offerings.

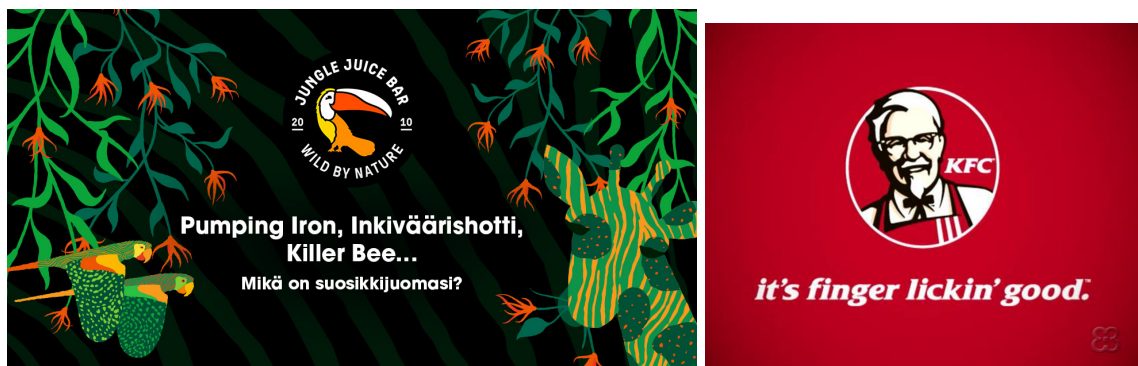


Fig. 3. Examples of Priming found in advertising.

Salience targets to direct our attention towards a recommended option, thus we will tend to choose that option. Closely related to framing and default option, but there are some subtle differences. We are naturally drawn to the nearest things to us. It is sometimes considered as **availability**, Thaler & Sunstein (2008) demonstrated the placing fruit at eye-level decrease the consumption of junk food at the canteen. Similarly, Van Gestel, LC (2018) examined at snack

shops at train stations, consumers purchased more fruit and healthy snack options when they were relocated next to the cash register.

Social proof heuristics refers to our tendency to find cues from our peers or other “identifiable people” and refer to our own behaviours. Studies have found a personal letter from CEO increases charity donation rate by 6% (Behaviour Insights Team, 2015). We see it in how influencer marketing is adopted. **Availability** and **accessibility** works in a similar manner, as our mind will search for the most recent recollection of the item and therefore biased against older stuff, and show clear preferences to recency, latest news or newest ideas (Kahneman, 2002).

One common theme as we can observe is that these types are closely related to each other. Default options introduce framing and anchoring into the context, as well as elevate the salience of such context. The context that elevate the compare and contrast activity accentuate the gains and losses to the context. Similarly, availability, priming, salience, social proof heuristic or accessibility seek to provide us just enough clues for the automatic System 1 to pick up and ‘autocomplete’ the rest of the decision making process.

Also to reinforce the point made in the previous section, conveniently each Nudge is one form of attacking our biases steering us into quick autopilot decisions. Each type of Nudge is closely related to the corresponding bias and heuristics that we tend to rely on. Primers, status quo bias, social proof, representativeness, loss aversion... are all proven biases existing in our daily life. Of course as long as there are biases or subtle effects we are subjected to, there can be a corresponding Nudge appealing to said bias to steer us into behaving in a certain way. For example, in the next section, we can examine how panopticon effect can be applied to increase donations for nonprofits.

3. Applications of Nudge

3.1 Nonprofit

Gentle Nudge are being recognised and tested in non-commercial settings more in recent years. Powell et al (2012) applied the panopticon effect to charitable donations by the presence of eye images, which increased donations by 48% relative to other images. The Panopticon effect was originally coined by Bentham (1798, quoted in Evans 1982) when Bentham proposed a new design for prisons which allow all (pan-) inmates to be watched (-opticon) simultaneously by only one prison watch, without the inmates knowing if they are being watched. It is important to note that it is obviously not possible for one watchman to watch all the inmates. However, it is impossible for inmates to tell if they are being monitored, this is observed to make inmates behave better, as if they are being watched all the time. In that way, the inmates self-regulate their own behaviours. We, therefore, behave better if we are subjected to surveillance.

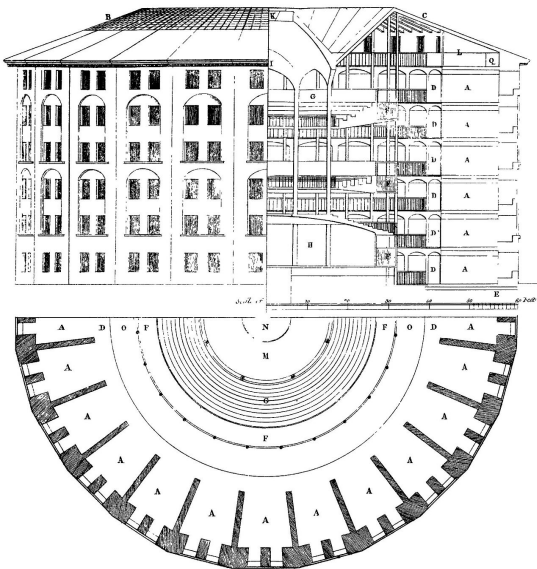


Fig. 4: Panopticon prison design (Bentham, 1798)



Fig. 5: Eye (left) and controlled (right) images (Powell, 2012)

Powell et al (2012) made sure that the manipulation was extremely subtle with the eyes figure resemble only minimally to real eyes. In busy times, donations was relatively higher in general, but eye-effect is 28% higher than the control counterpart. In quiet time, donations to the the eye-effect was 59% higher than its counterpart. It goes to show that the seemingly trivial details of an eye-like figure can already guide the behavior to the desired ones without making it mandatory or coercive.

Also, the difference between 28% in busy time versus 59% in quiet times is notably significant. It raises the hypothesis of whether context is key component for Nudge- in the cluttered environment, the cues might be lost in the environment and therefore not picked up by our mind. Or vice versa, in a quiet and less sensory distraction, the subtle Nudge is better framed, therefore more powerful?

In a similar attempt, Behaviour Insight Team, a UK government department created to improve social impact via behavioural changes, had attempted to improve charity donation as part of a social experiment, partnered with Deutsche Bank (Behaviour Insights Team, 2015). Four different groups of employees are asked to donate a day's salary to charity. Only 5% of the Control group with no Nudge applied decided to donate. The second group was given a pack of sweets (**priming**) at the start of the work day see an 11% in donations. The third group received a personal email from the CEO (**social proof**) nudging for good-deed also see a 12% in donations. However, when combining a pack of sweet personal email, the donation rate is the highest at 17%. Indeed, little actions go a long way ("everything matters!").

3.2 Public Policy

The common theme so far is that Nudge is a popular choice to achieve public good. Thaler & Sunstein (2008), Van Gestel (2018) demonstrated the placing healthier food options at eye-level decreases the consumption of junk food and increase the consumption of healthy snacks. Caris (2018) found that Nudges added to the soap dispenser in the hospital wards indeed increases the use of soap, therefore hand hygiene, compared to soap dispenser without Nudges.

As previously mentioned, Behaviour Insight Team (BIT) was born from the UK Government Cabinet department to improve social impact via behavioural Nudges, has now become an independent organization to help governments around the world implement these cheap yet effective measures. With their proposed EAST framework (Behaviour Insights Team, 2015) - making it Easy, Attractive, Social and Timely; BIT has worked on various projects using Nudges to increase tax payments rate, traffic fine payments, simplifying university application process, nudging benefits claimants to re-enter job markets, encourage savings, increase election participation rates, or even increase organ donation opt-in etc.

3.3 Commerce

While Nudge seems to be more popular for the public good from the examples thus far, it is worth noting that a lot of these practices have already been well-known in the marketing world for a long time. There have been marketing studies on anchor pricing (Petkovski, 2013), choice paradox (Iyengar et al., 2004), default options (Pichert & Katsikopoulos, 2008) and also relevant examples previously mentioned in Types of Nudge subsection.

However, there has also been an interesting intersection between public health and commercial setting. Friis et al (2015) conducted an experiment that tested out three types of

Nudge to encourage eating more vegetables in a self-service buffet restaurant. It is interesting as beside green vegetables being healthy, they are also higher margin due to lower preparation cost. They employed three different Nudges - default option, priming and perceived variety. Priming includes simply overt decoration of green in the restaurants. Default option of salad is pre-portioned and salient. Perceived variety simply serves the default option of the salad but into each of its component, increasing seemingly the variety of the vegetable. The result shows various commercial effects of Nudge. The default option Nudge, the energy intake from vegetables were increased amongst the test subjects. Whereas, the priming and perceived variety Nudge reduced the meat-based meal energy intake, while total energy intake was also reduced.

3.5 Organization

It is the ultimate goal for companies to maximise profit for shareholders. In the modern knowledge economy where a lot of value is generated from creative and collaborative work. Companies are therefore incentivized to look for ways to inspire creativity and encourage collaboration. There have been research studies where Nudge can be applied in workplaces to improve the wellbeing of employees, encourage more incidental encounter, and therefore higher collaboration and productivity.

Iyengar et al. (2004) proved that there is such as thing as too much choice, and thus also proved that Nudge is effective in steering employees towards contributing to desirably higher contributions in retirement plans. It was found that the retirement plans that offered more funds had lower percentage of employee participation. The participation where 59 funds (Excessive choice) offered was only 60% whereas participation is 75% if only 2 funds offered (limited

choice). On average, participation rate in mutual funds dropped by about 2% for every 10 additional mutual funds.

Nudge is also used to increase efficiency in Knowledge worker organizations (Ebert & Freibichler, 2017). A new style of Nudge management can be applied for knowledge workers to be more productive. Changing the default meeting time from 60 down to 30 minutes led to a 5% decrease in average time spent in meetings, and thus saved thousands of productive working hours in larger companies over the year.

Ebert & Freibichler (2017) proposed that it is possible to create a less cluttered environment for knowledge workers by the use of software to block out no-meeting days and combine with work-from-home days to maximize uninterrupted deep-work of knowledge workers. The effects are deemed even greater if combined with information disclosure - is to show employees the statistics of their own activities - showing the interrupted time that employees distract themselves browsing websites, social media, etc... and allowing software to turn off notifications and set syncing time of email from real time to hourly. In similar efforts, Google turned the 'water cooler' into "micro kitchens" where employees hang around and have meals in a more relaxed manner, foster discussions and knowledge sharing.

4. Critique of Nudge

4.1 Nudge is ineffective

There are also school of thought and followed up studies that Nudge can be toothless in practice, for example in a study by Bertrand & Morse (2011) where the Nudge designed to discourage people from taking out ludicrously expensive payday loans was deemed ineffective.

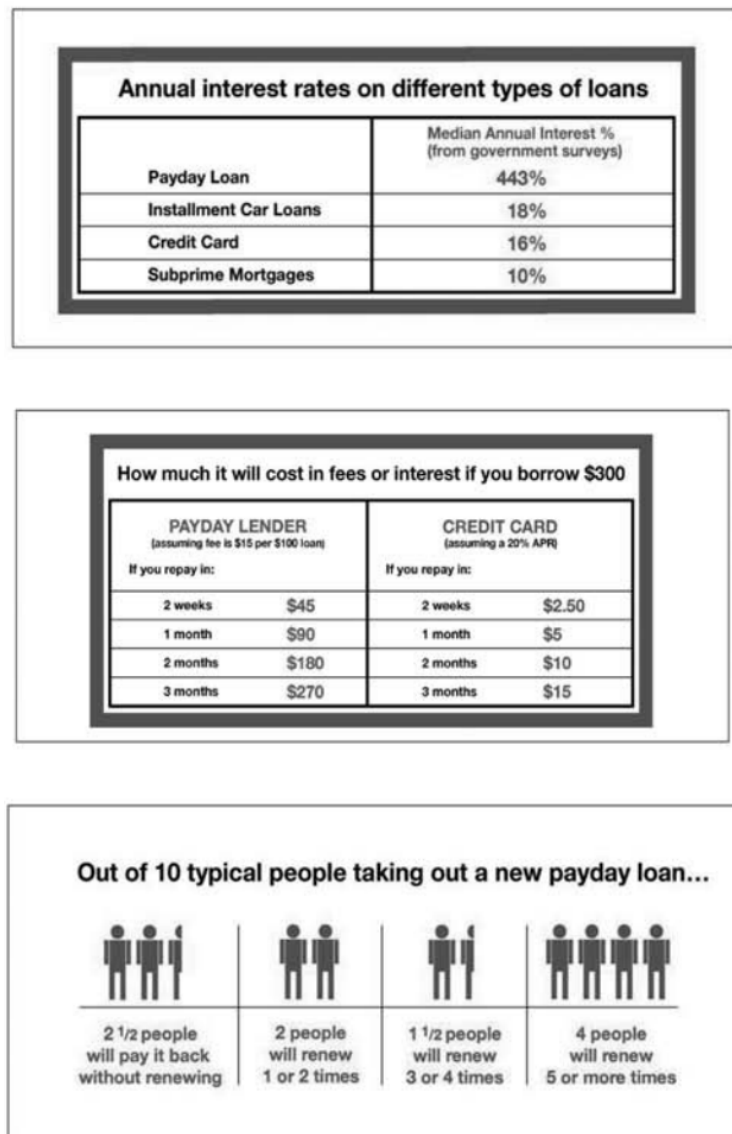


Fig. 6: Transparent Information Treatment contrasting Payday Loan with other finance products (Bertrand, 2011)

According to Bertrand & Morse (2011), taken at face values, transparent information disclosure at Payday Loan only leads to a disappointing 11% reduction in expensive borrowing. In other words, if people resorted to taking financial products from Payday Loan, they already knew what sort of risk and outcome they are taking into. However this also shows some hints that a policy of complete banishment of payday loan may deprive the service of the people who need emergency funds the most.

Despite the low turn-out of the reduction, Bertrand & Morse (2011) were still ‘agnostic’ about information disclosure. They proposed that Nudge should still be used due to the low cost of this policy, while maintaining the absolute freedom of consumers to still take Payday loan, if they need it (in contrast of a total ban).

However, on a distantly-related research in 2015, Larrick et al. claimed that informational disclosure alone would not benefit end-consumers, but rather only ‘useful’ information should be disclosed. In the study, Larrick et al. focused on a case study of how consumers interpret energy metrics and how it impacts their overall energy use. Larrick et al. more intuitive principles to present these information that would improve green customer actions. The CORE-principles that Larrick et al. proposed consist of Consumption, Objectives, Relative, Expand. Consumption means showing the figure in their real terms. Objectives has to be clear and easy to contrast. Relative means metrics must allow a meaningful comparison to other consumers and other products. Expand seeks to extrapolate the impact of recommended choice into a bigger scale of impact in months, years - so that the impact became more apparent via the metrics. The metrics in Payday loan case can still be improved along. These interventions are by itself attractive to organizations due to its low cost and still designed to improve consumer decision making.

4.2 Nudge undermines democracy

Thaler & Sunstein (2008) acknowledged the fine line of Nudge and coercing in rebuttal against Nudge's critics. The critics voiced out the concern of the similar nature of Nudge and a nanny state. At first a Nudge can be steering us away from cigarettes consumption, but the main concern is that this steering is not far off from punishment nor penalty fines nor even light jail terms for public smoking - stripping away public's freedom from their free will. "Libertarian Paternalism is an Oxymoron" (Mitchell, 2005) argued that the term libertarian paternalism does not make logical sense, and it is not separable from soft totalitarianism.

While Thaler & Sunstein (2008) acknowledged this fine line between Nudging and Shoving, they brandished this argument as a logical fallacy - a slippery slope. Thaler & Sunstein insisted the libertarian aspect has to be preserved - a Nudge is only a Nudge when it is 'low-cost' and 'free to opt-out'. Also, it is impossible for the government or public bodies to stand aside and maintain complete freedom as Nudge is inevitable, choice architecture is natural ("everything matters!") (Johnson et al., 2012). Meanwhile, marketing is already criticized for convincing consumers need something that they don't (Solomon et al., 2010), private sectors risk backlash as well as customer boycott if Nudge is overused.

However, one could still find this defense not thorough enough. In the age of data-intensive applications, Tim O'Reilly begrudged a dystopian vision of society being regulated by rule-based algorithms, thus coined the term "Algorithmic regulation" (Tim O'Reilly, 2013). Choice architects (in this case democracies and big-brother tech companies) with access to a massive amount of data from users, have reached a point where they want to try to solve public problems without having to explain or justify. Instead, choice architects can

simply appeal to our self-interests, and they know enough about us to build a contextualized Nudge. Thus, consumers/citizens may lose the knowledge of context for decisions, and thus are more confused about the logic. Everything might work well but we do not know how and why. Schubert (2015) proposed that though Nudge preserved our autonomy but stripped us away from our agency.

Furthermore, knowing the acknowledged power of contextualized Nudging, a temptation to Nudge also means a hunger to data, infringing the privacy of the public. With intensive retrieval of personal data, the modern organizations study customer behaviours and therefore identify anomalies easier, enforce the standards of behavior and adjust individual conducts. In order to perform Nudge, technology companies (commercial interests) and governments (policy interests) are both interested in our data. Insurance companies are interested in a variety of alternative data to adapt credit scoring while police force needs to monitor all phone calls and movements in order to identify potential criminals and locate suspects. Financial institutions want to monitor all transactions in efforts against money laundering. Welfare agencies want to nudge claimants back to workforce and easier detection of fraudulent behaviours, so on and so forth. All of this great things come with a cost - “The Right to Privacy” (Brandeis & Warren, 1890) which is the right to be alone and live an undisturbed life. However, the scope of this study cannot go into depth for such a massive topic like privacy in democracy. Thus this could be an interesting development for further research.

All in all, the balance between the use of Nudge and information transparency should be adjusted and reconsidered continuously.

4.3 Nudge means evading the issues

Continuing on to the previous section, democracy without engaged citizens does not sound like democracy. While information disclosure may not always be effective (Bertrand & Morse, 2011), effective communication of relevant information can improve its efficiency. However, having to Nudge without enough information disclosure means a poor understanding about the issue. Getting the desired behaviours without a proper understanding of why they are desired. “Everything might work well but we do not know how and why.”

In Iyengar et al. (2004), the paradox of choice is eliminated with a default option and less choice of retirement plans. However, one might wonder if employees are better off when they are properly equipped with personal finance understanding for the long term effects. Employees might put some percentage of income to retirement plans, but if their outside lifestyle spending and credit borrowing is not kept in check, financial hazard still can happen. Similarly in Thaler & Sunstein (2008) example, Nudge might lower junk food consumption in school, but what happens outside of school grounds is also outside of the school’s control. Does an informative and fun nutrition education go a longer way in fighting obesity?

Furthermore, Hermstrüwer & Dickert (2017) found that regulation might even trigger unintended effects. Privacy laws like the EU-GDPR were aimed for the public to take back their rights to make privacy choices via consent. However, the experiment shows that the salient notice and consent option does not improve valuations of privacy in subject test. Though the Right to be Forgotten bill aimed to lower the bar for total deletion of data for the public, however, does not have an impact on the total request for deletion. Hermstrüwer & Dickert stated such regulation can even create a status quo, making people to stick to the default of staying put.

Revising the Payday loan example of section 4.1, despite nudging away from taking the expensive payday loan, we only see a slight decrease of 11%, one might wonder if the audience that are resorted to payday loan is indeed underserved, having no other financial alternatives.

4.4 Nudge is Shaming

Despite the emerging literature in the overall effectiveness of Nudge in various fields, Nudge's connection to negative emotions like shame, stigma, and embarrassment is still rather complex and neglected. One can not definitely state the direct causal correlation between Nudge and shoving when claiming the decline of welfare benefit claimants after 13 weeks was due to fear or healthy cooperation. (Roberts, 2015) As well as, the death of a beneficiary, who was alleged to be so afraid his benefits would be stopped he ended his own life, was directly related to the program.

Nir Eyal (2014) hypothesised that the connection between nudging and shaming can be used in the harmless way that shame enables some Nudge, especially in the case of social proof heuristics. However, he further stated the unintended effects of shaming by nudging is said to be complicated and merits further investigation. In the case of health prevention measures, it is thought to be more effective, instigating less shame and guilt, if a restrictive prevention is used, instead of relying on social pressure. Health interventions are more restrictive but sometimes more preferable.

Beside Eyal (2014), Schubert (2017) has also been an active critic of Nudge. Schubert proposed to look at Nudge in individual merits. Nudge can only be considered legitimate if it meets the "transparency token" criterion. Meaning, if a Nudge does not disclose transparently that it is set out there to sway people via targeting their bias, it should be deemed unethical.

5. Findings

In summary, throughout the study, there are a few notable findings standing out about Nudge. Firstly, there is no such thing as neutral architecture. Nudge is inevitable in every design. Such understanding needs to be matched with resources to evaluate the impacts of design. Secondly, Nudge target our biases therefore guiding us into quick automatic decision making, rendering Nudge really low cost and supposedly easy to avoid. Thirdly, while Nudge has shown instrumental glimpses of effectiveness, context is still a key component for Nudge to work, it is important to provide useful and intuitive information instead of complete information disclosure. Next, unintended effects or the ethical side of Nudges are complex and need to be examined continuously, it has its multitude of downside and thorough ethical assessment is needed.

Findings	Key Literature
Nudge is inevitable. Everything matters.	Thaler & Sunstein (2008), Johnson et al. (2012), Powell et al (2012)
Nudge simply ‘attack’ bias steering us into quick autopilot decisions.	Friedman (1976), Herbert (1978), Becker (1992), Kahneman (2002), Thaler & Sunstein (2008)
Nudge is highly context dependent. Provide useful info, not more info.	Bertrand & Morse (2011), Powell et al (2012) Larrick et al. (2015), Schubert (2017)
Beware of the downside. Nudge can be undermining democracy, evading the issues or downright predatory.	Thaler & Sunstein (2008), Mitchell (2005), O’Reilly (2013), Eyal (2014), Schubert (2015)
The connection between Nudge and negative emotions are complex and still under-researched.	Eyal (2014), Schubert (2017)

Fig. 7: Summary of key findings and relevant literatures

6. Discussion and Implications

6.1 Implications to Research

While this research is only intended to summarise literatures on the topic of Nudge, thus by its nature, it has little implications to research. However, this research has carefully balanced the advocates and the critics of Nudge to gain a thorough understanding of the issue and thus also demonstrated how closely related literature on decision making, behaviour economics and Nudge are closely related to marketing literature. The concepts of brand association, advertising, integrated marketing communications ring true throughout the study. The study has opened up several gaps for research that I believe will be filled in and further enriched continuously in the coming years.

6.2 Implications to Practice

This study acts as a perfect summary for researchers or onboarding material for marketers or analysts to gather basic understandings on the topic of nudge and starting to apply it to marketing practice.

Due to its low cost and easy implementation, organizations might be quick and tempted to employ Nudge. However, it needs to be thoroughly assessed the transparency, ethical impacts and possibly unintended effects, too.

Schubert (2017) suggested that Nudge could even be used on top of incentive-based measures to maximize the impacts. One can start already by implementing small Nudges in the purchasing process, customer journey or as simply as a nice thank you letter after completing a transaction. As the Behaviour Insight Team put it succinctly with their EAST framework (2015). Make it Easy, make it Attractive, make it Social, make it Timely.

6.3 Limitations and future research

As previously indicated, the most pressing gap found in this research is how Nudge's ethical assessment has so far been not been talked about enough. Perhaps Nudge is still a new and fledgling discipline, relevant critical works have been published in the past few years namely Mitchell (2005), Eyal (2014), Schubert (2015) (2017). It is definitely met with great excitement. However the link between Nudge and negative emotions are yet to be examined sufficiently.

One can continue the good work of Schuber (2017) and propose a proper framework on how to fully evaluate a Nudge, if they are still a Nudge or soft totalitarianism, if they are ethical or they have no unintended effects.

It is also interesting to examine the extent of impact how context play a role in the effectiveness of Nudge, examples in Bertrand & Morse (2011), Powell et al (2012) and Schubert (2017) all demands further investigations on how the Nudge effectiveness correlate and depend on the context, therefore extending its concern about context-heavy and data-hungry of "Algorithmic Regulation" (O'Reilly, 2013). Thus as an extension, Nudge's impact on privacy infringement in democracy is also an interesting development for further research.

Last but not least, future researchers could thus be open to studying further negative impacts of such Nudge operations and how to draw the line between behavioral influencing and directly fear-inducing policies.

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